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

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Search: cytokinin receptor agonist

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```
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Translations:

cytokinin "cytokinins"[MeSH Terms] OR "cytokinins"[All Fields] OR
"cytokinin"[All Fields]
receptor "Receptor"[Journal] OR "receptor"[All Fields]

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1. [Cytokinin sensing systems using microorganisms.](#)
Higuchi M, Kakimoto T, Mizuno T.
Methods Mol Biol. 2009;495:101-9.
PMID: 19085143 [PubMed - indexed for MEDLINE]
2. [Functional analysis of AHK1/ATHK1 and cytokinin receptor histidine kinases in response to abscisic acid, drought, and salt stress in Arabidopsis.](#)
Tran LS, Urao T, Qin F, Maruyama K, Kakimoto T, Shinozaki K, Yamaguchi-Shinozaki K.
Proc Natl Acad Sci U S A. 2007 Dec 18;104(51):20623-8. Epub 2007 Dec 12.
PMID: 18077346 [PubMed - indexed for MEDLINE]
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3. [Cytokinin receptors are involved in alkamide regulation of root and shoot development in Arabidopsis.](#)
López-Bucio J, Millán-Godínez M, Méndez-Bravo A, Morquecho-Contreras A, Ramírez-Chávez E, Molina-Torres J, Pérez-Torres A, Higuchi M, Kakimoto T, Herrera-Estrella L.
Plant Physiol. 2007 Dec;145(4):1703-13. Epub 2007 Oct 26.
PMID: 17965178 [PubMed - indexed for MEDLINE]
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4. [AHK5 histidine kinase regulates root elongation through an ETR1-dependent abscisic acid and ethylene signaling pathway in Arabidopsis thaliana.](#)
Iwama A, Yamashino T, Tanaka Y, Sakakibara H, Kakimoto T, Sato S, Kato T, Tabata S, Nagatani A, Mizuno T.
Plant Cell Physiol. 2007 Feb;48(2):375-80. Epub 2007 Jan 3.
PMID: 17202180 [PubMed - indexed for MEDLINE]
5. [Cytokinins regulate a bidirectional phosphorelay network in Arabidopsis.](#)
Mähönen AP, Higuchi M, Törmäkangas K, Miyawaki K, Pischke MS, Sussman MR, Helariutta Y, Kakimoto T.
Curr Biol. 2006 Jun 6;16(11):1116-22.
PMID: 16753686 [PubMed - indexed for MEDLINE]
6. [In planta functions of the Arabidopsis cytokinin receptor family.](#)
Higuchi M, Pischke MS, Mähönen AP, Miyawaki K, Hashimoto Y, Seki M, Kobayashi M, Shinozaki K, Kato T, Tabata S, Helariutta Y, Sussman MR, Kakimoto T.
Proc Natl Acad Sci U S A. 2004 Jun 8;101(23):8821-6. Epub 2004 May 27.
PMID: 15166290 [PubMed - indexed for MEDLINE]
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7. [Identification of CRE1 as a cytokinin receptor from Arabidopsis.](#)
Inoue T, Higuchi M, Hashimoto Y, Seki M, Kobayashi M, Kato T, Tabata S, Shinozaki K, Kakimoto T.
Nature. 2001 Feb 22;409(6823):1060-3.
PMID: 11234017 [PubMed - indexed for MEDLINE]
8. [CK11, a histidine kinase homolog implicated in cytokinin signal transduction.](#)
Kakimoto T.
Science. 1996 Nov 8;274(5289):982-5.
PMID: 8975940 [PubMed - indexed for MEDLINE]

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1. [Regulation of exocytosis by cyclin-dependent kinase 5 via phosphorylation of Munc18.](#)
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J Biol Chem. 1999 Feb 12;274(7):4027-35.
PMID: 9933594 [PubMed - indexed for MEDLINE]
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2. [Phosphorylation and activation of p42 and p44 mitogen-activated protein kinase are required for the P2 purinoceptor stimulation of endothelial prostacyclin production.](#)
Patel V, Brown C, Goodwin A, Wilkie N, Boarder MR.
Biochem J. 1996 Nov 15;320 (Pt 1):221-6.
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3. [Quantitative aspects of the receptor binding of cytokinin agonists and antagonists.](#)
Iwamura H, Masuda N, Koshimizu K, Matsubara S.
J Med Chem. 1983 Jun;26(6):838-44.
PMID: 6854566 [PubMed - indexed for MEDLINE]

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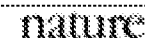
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Nature. 2001 Feb 22;409(6823):1060-3.
PMID: 11234017 [PubMed - indexed for MEDLINE]

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Search: "inoue"[author] AND cytokinin receptor

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Nature. 2001 Feb 22;409(6823):1060-3.

Identification of CRE1 as a cytokinin receptor from *Arabidopsis*.

Inoue T, Higuchi M, Hashimoto Y, Seki M, Kobayashi M, Kato T, Tabata S, Shinozaki K, Kakimoto T.

Department of Biology, Graduate School of Science, Osaka University, Toyonaka, Japan.

Cytokinins are a class of plant hormones that are central to the regulation of cell division and differentiation in plants. It has been proposed that they are detected by a two-component system, because overexpression of the histidine kinase gene CKI1 induces typical cytokinin responses and genes for a set of response regulators of two-component systems can be induced by cytokinins. Two-component systems use a histidine kinase as an environmental sensor and rely on a phosphorelay for signal transduction. They are common in microorganisms, and are also emerging as important signal detection routes in plants. Here we report the identification of a cytokinin receptor. We identified *Arabidopsis cre1* (cytokinin response 1) mutants, which exhibited reduced responses to cytokinins. The mutated gene CRE1 encodes a histidine kinase. CRE1 expression conferred a cytokinin-dependent growth phenotype on a yeast mutant that lacked the endogenous histidine kinase SLN1 (ref. 10), providing direct evidence that CRE1 is a cytokinin receptor. We also provide evidence that cytokinins can activate CRE1 to initiate phosphorelay signalling.

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